



**Rules and
Regulations for
the Classification
of Ships, July 2006**

Notice No. 3

Effective Date of Latest
Amendments:

See page 1

Issue date: December 2006

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RULES AND REGULATIONS FOR THE CLASSIFICATION OF SHIPS, *July 2006*

Notice No. 3

This Notice contains amendments within the following Sections of the *Rules and Regulations for the Classification of Ships, July 2006*. The amendments are effective on the dates shown:

Part	Chapter	Section	Effective date
1	2	2	1 July 2006
3	1	1, 8	1 July 2006
3	2	1, 2	1 July 2006
3	3	1, 5	1 July 2006
3	4	3, 5, 8	1 July 2006
3	5	1, 2, 3, 4, 5	1 July 2006
3	6	1, 2, 4	1 July 2006
3	7	1, 2	1 July 2006
3	8	1, 5	1 July 2006
3	9	9, 12	1 July 2006
3	10	1, 2, 5	1 July 2006
3	11	1	1 July 2006
3	13	1, 7	1 July 2006
3	16	1, 2, 3, 4	1 July 2006
4	1	6	1 July 2006
4	3	1, 9	CORRIGENDUM
4	4	1	CORRIGENDUM
4	7	1	1 July 2006
5	19	5	CORRIGENDUM
5	23	6	CORRIGENDUM
6	1	1, 2, 7	CORRIGENDUM
6	2	7, 11, 13	CORRIGENDUM

The *Rules and Regulations for the Classification of Ships, July 2006* are to be read in conjunction with this Notice No. 3. The status of the Rules is now:

Rules for Ships	Effective date:	July 2006
Notice No. 1	Effective dates:	1 April, 1 July 2006 & Corrigenda
Notice No. 2	Effective date:	1 January 2007
Notice No. 3	Effective date:	1 July 2006 & Corrigenda

Part 1, Chapter 2 Classification Regulations

Effective date 1 July 2006

■ Section 2 Character of classification and class notations

2.3 Class notations (hull)

2.3.13 CSR. This notation will be assigned to bulk carriers and double hull oil tankers compliant with the *IACS Common Structural Rules*, see Pt 4, Ch 7,1.2.1 and Ch 9,1.2.1.

~~2.3.13~~ **2.3.14 ESN.** This notation (Enhanced Survivability Notation) will be assigned to **non-CSR** bulk carriers which are designed to withstand the individual flooding of all cargo holds, see Pt 4, Ch 7,1.3.2.

Existing paragraphs 2.3.13 to 2.3.17 are to be renumbered 2.3.14 to 2.3.18.

Part 3, Chapter 1 General

Effective date 1 July 2006

■ Section 1 Rule application

1.2 Exceptions

1.2.1 Ships of unusual form, proportions or speed, intended for the carriage of special cargoes, or for special or restricted service, not covered by Parts 3 and 4, will receive individual consideration based on the general standards of the Rules.

1.2.2 The requirements of 7.1 and 8.3 are not applicable to Double Hull Oil Tankers or Bulk Carriers with a **CSR** notation (see Pt 1, Ch 2,2.3).

■ Section 8 Inspection, workmanship and testing procedures

8.3 Testing procedures

(Part only shown)

8.3.3 Structural testing.

- (a) Structural testing may be carried out afloat where testing using water is undesirable in dry-dock or on the building berth. The testing afloat is to be carried out by separately filling each tank and cofferdam to the test head. For tankers and ore or oil ships (see 1.2.2), the testing afloat is to be carried out by separately filling each tank and cofferdam to the test head given in Table 1.8.1. With about half the number of tanks full, the bottom and lower side shell in the empty tanks is to be examined and the remainder of the bottom and lower side shell examined when the water is transferred to the remaining tanks.

Table 1.8.1 Testing requirements *(Part only shown)*

Item to be tested	Testing procedure	Testing requirement
Water ballast holds in bulk carriers (see 1.2.2)	Structural ⁽¹⁾	The tank testing requirement is not to be less than the head up to the top of the hatch coaming ⁽¹¹⁾ & ⁽¹²⁾

Part 3, Chapter 2

Materials

Effective date 1 July 2006

■ Section 1

Materials of construction

1.1 General

1.1.3 The requirements in this Chapter are not applicable to Double Hull Oil Tankers or Bulk Carriers with a **CSR** notation (see Pt 1, Ch 2,2.3) with the exception of 1.2.5, 2.3 and 3.2 which are to be complied with.

■ Section 2

Fracture control

2.1 Grades of steel

Table 2.2.1 Material classes and grades (*Part only shown*)

Structural member category	Within 0,4L amidships	Outside 0,4L amidships
SPECIAL: <ul style="list-style-type: none"> • Sheerstrake or rounded gunwale, see Note 1 • Stringer plate at strength deck, see Note 1 • Strength deck plating at outboard corners of cargo hatch openings in container carriers and other ships with similar hatch opening configurations, see Note 2 • Strength deck plating at corners of cargo hatch openings in bulk carriers (see 1.1.3), or carriers, combination carriers and other ships with similar hatch opening configuration, see Note 3 • Deck strake at longitudinal bulkhead, see Note 4 • Bilge strake, see Notes 5 and 6 • Longitudinal hatch coaming of length greater than 0,15L, see Note 7 • End racks and deckhouse transition of longitudinal cargo hatch coamings, see Note 7 	III	II, in general I, outside 0,6L

Part 3, Chapter 3

Structural Design

Effective date 1 July 2006

■ Section 1

General

1.1 Application

1.1.3 The requirements in this chapter are not applicable to Double Hull Oil Tankers or Bulk Carriers with a **CSR** notation (see Pt 1, Ch 2,2.3) with the exception of 4.7 which is to be complied with.

■ Section 5 Design loading

5.2 Symbols

(Part only shown)

5.2.2 The following symbols and definitions apply in particular to the design pressures for partially filled tanks:

L_{pp} and C_b as defined in Ch 1,6.1

$$\begin{aligned} S_{nr} &= \text{ship's natural rolling period} \\ &= \frac{2,35r}{GM} \text{ seconds} \end{aligned}$$

for ships for which either r or GM varies significantly between loading conditions (for example, bulk carriers and tankers, [see 1.1.3](#)), S_{nr} should be evaluated for each representative loading condition considered

$$\begin{aligned} S_{np} &= \text{ship's natural pitching period} \\ &= 3,5 \ T C_b \text{ seconds} \end{aligned}$$

for ships for which either T or C_b varies significantly between loading conditions (for example, bulk carriers and tankers, [see 1.1.3](#)), S_{np} should be evaluated for each representative loading condition considered

Table 3.5.1 Design heads and permissible cargo loadings (SI units) (Part only shown)

Structural item and position	Component	Standard stowage rate C , in m ³ /tonne	Design loading p , in kN/m ²	Equivalent design head h_i in metres	Permissible cargo loading in kN/m ²	Equivalent permissible head, in metres
Superstructure decks (Note 3)				h_3		
1st tier	Beams and longitudinals	—	—	0,9	—	—
2nd tier				0,6		
3rd tier and above				0,45		
Decks forming crown of tunnels and deep tanks	Plating and stiffeners	C	$\frac{9,82h}{C}$ where $h = 1/2$ height of stand pipe above crown	h_4 h	—	—
(c) Bulk carrier (see 1.1.3) with topside tanks						
Weather deck outside line of hatchways in way of cargo hold region, when topside tanks empty	Beams and longitudinals	1,39	—	—	7,06h	h = the lesser of (i) 0,22B (ii) $1,2 + 0,14 \frac{W_b}{A}$ where W_b = weight of water ballast in the topside tank per frame space, in kN A = Corresponding area, (m ²), of deck in way over one hold frame space
	Primary structure	1,39	—	—		
Weather deck hatch covers (non-liquid cargo)	see also Pt 3, Ch 11, for weather loading			h_H		
Steel covers – Position 1 (Note 4)	Webs, stiffeners and plating	1,39	$\left(7,56 + \frac{L_L}{10,26}\right)$ Min. 10,59 Max. 17,17	$\left(1,07 + \frac{L_L}{72,5}\right)$ Min. 1,5 Max. 2,45	10,59 (Note 2)	1,5 (Note 2)
Steel covers – Position 2 (Note 4)			$\left(5,65 + \frac{L_L}{14,15}\right)$ Min. 8,47 Max. 12,77	$\left(0,8 + \frac{L_L}{100}\right)$ Min. 1,2 Max. 1,8	8,5 (Note 2)	1,2 (Note 2)
Wood covers	As for steel covers					

Table 3.5.1 Design heads and permissible cargo loadings (metric units) (Part only shown)

Structural item and position	Component	Standard stowage rate C , in m ³ /tonne	Design loading p , in tonne-f/m ²	Equivalent design head h_i in metres			Permissible cargo loading in tonne-f/m ²	Equivalent permissible head, in metres
Superstructure decks (Note 3)				h_3				
1st tier	Beams and longitudinals	—	—	0,9	Where the deck is exposed to the weather, add 2,04E		—	—
2nd tier				0,6				
3rd tier and above				0,45				
Decks forming crown of tunnels and deep tanks	Plating and stiffeners	C	$\frac{h}{C}$	h_4	h		—	—
	where $h = 1/2$ height of stand pipe above crown							
(c) Bulk carrier (see 1.1.3) with topside tanks								
Weather deck outside line of hatchways in way of cargo hold region, when topside tanks empty	Beams and longitudinals	1,39	—	—			$\frac{h}{1,39}$	$h =$ the lesser of (i) 0,22B (ii) $1,2 + 0,39 \frac{W_b}{A}$ where W_b = weight of water ballast in the topside tank per frame space, tonne-f A = Correspond- ing area, (m ²), of deck in way over one hold frame space
	Primary structure	1,39	—	—				
Weather deck hatch covers (non-liquid cargo)				h_H				
Steel covers – Position 1 (Note 4)	Webs, stiffeners and plating	1,39	$\left(0,77 + \frac{L_L}{100,8}\right)$ Min. 1,08 Max. 1,75	$\left(1,07 + \frac{L_L}{72,5}\right)$ Min. 1,5 Max. 2,45			1,08 (Note 2)	1,5 (Note 2)
Steel covers – Position 2 (Note 4)			$\left(0,575 + \frac{L_L}{139}\right)$ Min. 0,865 Max. 1,3	$\left(0,8 + \frac{L_L}{100}\right)$ Min. 1,2 Max. 1,8			0,865 (Note 2)	1,2 (Note 2)
Wood covers	As for steel covers							

Part 3, Chapter 4

Longitudinal strength

Effective date 1 July 2006

Section 3

Application

3.2 General

3.2.2 The requirements in this Chapter are not applicable to Double Hull Oil Tankers or Bulk Carriers with a CSR notation. See Pt 1, Ch 2,2.3.

Section 5

Hull bending strength

5.3 Design still water bending moments

(Part only shown)

5.3.3 In general, the following loading conditions, based on amount of bunkers, fresh water and stores at departure and arrival, are to be considered.

(b) Bulk carriers (see 3.2.2), ore carriers and combination carriers

(c) Oil tankers (see 3.2.2):

5.4 Loading conditions specific to bulk carriers of length, L , 150 m or above

5.4.1 The following additional loading conditions are applicable to bulk carriers with the relevant notation:

(a) ~~BC-C:~~

- (i) Homogeneous cargo loaded condition where the cargo density corresponds to all cargo holds, including hatchways, being 100 per cent full at maximum draught with all ballast tanks empty.

(b) ~~BC-B:~~

- (i) As required for ~~BC-C~~, plus;
- (ii) Homogeneous cargo loaded condition with cargo density 3,0 tonnes/m³, and the same filling rate (cargo mass/hold cubic capacity) in all cargo holds at maximum draught with all ballast tanks being empty;
- (iii) In cases where the cargo density applied for this design loading condition is less than 3,0 tonnes/m³, the maximum density of the cargo that the vessel is allowed to carry is to be indicated with the additional notation **(maximum cargo density x.y tonnes/m³)**.

(e) ~~BC-A:~~

- (i) As required for ~~BC-B~~, plus;
- (ii) At least one cargo loaded condition with specified holds empty, with cargo density 3,0 tonnes/m³, and the same filling rate (cargo mass/hold cubic capacity) in all loaded cargo holds at maximum draught with all ballast tanks empty;
- (iii) The combination of specified empty holds shall be indicated with the annotation **(holds a,b,... may be empty)**;
- (iv) In such cases where the design cargo density applied is less than 3,0 tonnes/m³, the maximum density of the cargo that the vessel is allowed to carry shall be indicated within the annotation, e.g. **(holds a,b,... may be empty, with maximum cargo density x.y tonnes/m³)**.

Existing paragraphs 5.5 to 5.10 are to be renumbered 5.4 to 5.9.

Section 8

Loading guidance information

8.2 Loading Manual

(Part only shown)

8.2.5 In addition to the requirements of 8.2.4, the Manual is to contain the following information for bulk carriers (see 3.2.2), ore carriers and combination carriers of length, L , 150 m or above:

8.2.6 In addition to the requirements of 8.2.4 and 8.2.5, the Manual is to contain the following information for bulk carriers of length, L , 150 m or above:

- (a) hold mass curves showing maximum allowable and minimum required mass as a function of draught, in sea going condition as well as during loading and unloading in harbour;
- (b) hold mass curves for each single hold, as well as for any two adjacent holds, are to be included.

At draughts other than those specified in the design loading conditions described in Pt 4, Ch 7,16, the maximum allowable and minimum required mass is to be adjusted for the change in buoyancy acting on the bottom. Change in buoyancy is to be calculated using water plane area at each draught.

Existing paragraphs 8.2.7 and 8.2.8 are to be renumbered 8.2.6 and 8.2.7.

Part 3, Chapters 4 and 5

8.3 Loading instrument

~~8.3.4 For bulk carriers of length, L , 150 m or above, the loading instrument is to be additionally capable of calculating:~~

- ~~(a) hold mass curves showing maximum allowable and minimum required mass as a function of draught, in sea going condition as well as during loading and unloading in harbour;~~
- ~~(b) hold mass curves for each single hold, as well as for any two adjacent holds, are to be included.~~

~~At draughts other than those specified in the design loading conditions described in Pt 4, Ch 7,16, the maximum allowable and minimum required mass is to be adjusted for the change in buoyancy acting on the bottom. Change in buoyancy is to be calculated using water plane area at each draught.~~

Existing paragraphs 8.3.5 to 8.3.11 are to be renumbered 8.3.4 to 8.3.10.

Part 3, Chapter 5 Fore End Structure

Effective date 1 July 2006

■ Section 1 General

1.1 Application

1.1.4 The requirements in this chapter are not applicable to Double Hull Oil Tankers or Bulk Carriers with a CSR notation. See Pt 1, Ch 2,2.3.

1.3 Structural continuity

1.3.2 Where longitudinal framing terminates and is replaced by a transverse system, adequate arrangements are to be made to avoid an abrupt changeover. Where a fore-castle is fitted extending aft of $0,15L$ from the F.P., longitudinal framing at the upper deck and topsides is generally to be continued forward of the end bulkhead of this superstructure. In bulk carriers and oil tankers (see 1.1.4) the longitudinal framing at the upper deck is to be maintained over the cargo space region and continued over the fore peak region.

1.3.4 In bulk carriers (see 1.1.4) the topside tank and double bottom hopper tank structures are to be maintained over the cargo space region, and suitable taper brackets are to be arranged in line with the end of these tank structures in the fore peak region. In addition, in way of the cargo space forward bulkhead, a girder or intercostal bulb plate stiffeners (fitted between and connected to the bulkhead vertical stiffeners), are to be arranged on the forward side in line with the sloped bulkheads of the topside and hopper tanks clear of the taper brackets.

1.5 Strengthening of bottom forward

(Part only shown)

1.5.8 For minimum draught forward, T_{FB} between $0,01L$ and $0,045L$, the equivalent slamming pressure expressed as a head of water, h_s , is to be obtained from Fig. 5.1.1, where h_{max} is calculated from the following expressions:

- (c) For bulk carriers (see 1.1.4) the reduction to the head, h_s , is not to exceed the head, in metres, of ballast water to the top of the hopper tank or 1,25 times the depth, in metres, of the double bottom tank, whichever is the greater.

■ Section 2 Deck structure

2.1 General

2.1.1 Where the upper deck is longitudinally framed outside the line of openings in the midship region, this system of framing is to be carried as far forward as possible. In the case of oil tankers (see 1.1.4) longitudinal framing is to extend to at least the forward end of the cargo tank section.

Table 5.2.3 Strength/weather deck longitudinals forward (*Part only shown*)

Symbols	
L, s, k_L, k, p as defined in 1.4.1 $b = 1,4$ for rolled or built sections $= 1,6$ for flat bars d_w = web depth of longitudinal, in mm $h_o = 1,2$ m for dry cargo ships $= \frac{L_1}{56}$ m for oil tankers (see 1.1.4) h_1 = weather head, in metres, as defined in Ch 3,5 for dry cargo ships $= \frac{L_1}{70}$ m for oil tankers (see 1.1.4)	h_4 = tank head, in metres, as defined in Ch 3,5 l_e as defined in 1.4.1, but is to be taken not less than 1,5 m l_{e1} is to be taken as the maximum span in metres in the midship cargo tank region for oil tankers (see 1.1.4) and equal to l_e for dry cargo ships $L_1 = L$ but need not be taken greater than 190 m
<p>NOTES</p> <ol style="list-style-type: none"> For area taper requirements, see also Table 3.2.1 in Chapter 3. Where weather decks are intended to carry deck cargo and the loading is in excess of $8,5 \text{ kN/m}^2$ ($0,865 \text{ tonne-f/m}^2$), the scantlings of longitudinals may be required to be increased to comply with the requirements for location (1) in Table 1.4.4 in Pt 4, Ch 1 using the equivalent design head, for specified cargo loadings, for weather decks given in Table 3.5.1 in Chapter 3. For the scantlings of deck longitudinals forward in way of the cargo tanks of oil tankers (see 1.1.4) or ore carriers, see also Pt 4, Ch 9, Ch 10 or Ch 11, as applicable. The thickness of flat bar longitudinals situated outside the line of openings is to be not less than the following: <ol style="list-style-type: none"> $t = \frac{d_w}{18 k_L} \text{ mm}$ where longitudinal continuous through bulkhead $t = \frac{d_w}{15 k_L} \text{ mm}$ where longitudinal cut at bulkhead The web depth of longitudinal, d_w, is to be not less than 60 mm. 	

■ Section 3

Shell envelope plating

3.1 General

3.1.1 Where the shell is longitudinally framed in the midship region, this system of framing is to be carried as far forward as practicable. In the case of oil tankers (see 1.1.4), longitudinal framing is to extend at least to the forward end of the cargo tanks.

■ Section 4

Shell envelope framing

4.1 General

4.1.1 Requirements are given in this Section for both longitudinal and transverse framing systems. Where longitudinal framing is adopted in the midship region it is to be carried as far forward as practicable. In the case of oil tankers (see 1.1.4), longitudinal framing is to be continued at least to the fore end of the cargo tanks.

■ Section 5

Single and double bottom structure

5.2 Single bottoms – Transverse framing

5.2.2 In deep tanks forward of $0,2L$ from the F.P. floors are to be supported by a primary centreline girder or centreline bulkhead together with intercostal side girders. In the case of an oil tanker (see 1.1.4) or similar ship having longitudinal bulkheads port and starboard, these may be extended to the fore end of the deep tank in lieu of a centreline bulkhead. The arrangement and scantlings of centreline girder, floors and side girders are to be determined from Table 5.5.1, but in way of web frames the depth of the floor and size of the face bar are to be not less than those of the web frame. In general, floors are not to be flanged.

5.3 Single bottoms – Longitudinal framing

5.3.1 In deep tanks forward of $0,2L$ from the F.P., bottom transverses are to be supported by a primary centreline girder or a centreline bulkhead. In addition, an intercostal side girder is generally to be fitted port and starboard. In the case of an oil tanker (see 1.1.4) or similar ship having longitudinal bulkheads port and starboard, these may be extended to the fore end of the deep tank in lieu of a primary centreline support and intercostal girders. The spacing of bottom transverses and scantlings of the centreline girder, bottom transverses and side girders are to be as required by Table 5.5.1.

Part 3, Chapter 6

Aft End Structure

Effective date 1 July 2006

Section 1

General

1.1 Application

1.1.4 The requirements in this Chapter are not applicable to Double Hull Oil Tankers or Bulk Carriers with a CSR notation. See Pt 1, Ch 2,2.3.

1.3 Structural continuity

1.3.2 Where longitudinal framing terminates and is replaced by a transverse system, adequate arrangements are to be made to avoid an abrupt changeover. Where a poop is fitted extending forward of 0,15L from the A.P., longitudinal framing at the upper deck and topsides is generally to be continued aft of the forward bulkhead of this superstructure. In bulk carriers and oil tankers (see 1.1.4) the longitudinal framing at the upper deck is to be maintained over the cargo space region and continued over the aft end region.

1.3.3 In oil tankers (see 1.1.4) with machinery aft, continuity of the longitudinal bulkheads is to be maintained as far as is practicable into the machinery space, and suitable taper brackets are to be fitted at their ends."

1.3.4 In bulk carriers (see 1.1.4) with machinery aft, continuity of the topside tank and double bottom hopper tank structure is to be maintained over the cargo space region and as far as is practicable continued into the machinery space, and suitable taper brackets are to be arranged at their ends. Also a vertical taper bracket in line with the vertical strake of the topside tank is to be fitted at the forward side of the aft bulkhead of the cargo space region. Where the topside tank and double bottom hopper tank structures terminate at the cargo space aft bulkhead, the vertical strake of the topside tank is to be arranged with an integral taper bracket and continued through the bulkhead into the machinery space for a distance of 0,2B, and the ends of the hopper and topside structures are to be arranged with suitable taper brackets. In addition, in way of the cargo space aft bulkhead, a girder or intercostal bulb plate stiffeners (fitted between and connected to the bulkhead vertical stiffeners), are to be arranged on the aft side in line with the sloped bulkheads of the topside and hopper tanks clear of the taper brackets.

Section 2

Deck structure

2.3 Deck stiffening

Table 6.2.3 Strength/weather deck longitudinals aft

Location	Modulus, in cm ³	Inertia, in cm ⁴
(1) Aft of 0,075L from the A.P.	The greater of the following: (a) $Z = s k (400h_1 + 0,005 (l_e L_1)^2) \times 10^{-4}$ (b) $Z = 0,0074s k h_1 l_e^2$	—
(2) Forward of 0,075L from the A.P., inside line of openings	As (1)	—
(3) Forward of 0,075L from the A.P., outside line of openings	As determined from Table 3.2.1 in Chapter 3, see Note 1 For oil tankers (see 1.1.4) and dry cargo ships the end modulus for taper at 0,075L from the A.P. is to be derived from Table 5.2.3 item (2)	—
(4) In way of the crown of a tank	$Z = \frac{0,0113p s k h_4 l_e^2}{b}$	$I = \frac{2,3}{k} l_e Z$
	or as (1) to (3) as applicable, whichever is the greater	
Symbols		
<p>L, s, k_L, k, p as defined in 1.4.1 $b = 1,4$ for rolled or built sections $= 1,6$ for flat bars d_w = web depth of longitudinal, in mm h_1 = weather head, in metres, as defined in Ch 3,5</p>		
<p>h_4 = tank head, in metres, as defined in Ch 3,5 l_e = as defined in 1.4.1 but is to be taken not less than 1,5 m $L_1 = L$ but need not be taken greater than 190 m</p>		

NOTES

1. For taper area requirements, see Table 3.2.1 in Chapter 3.
2. Where weather decks are intended to carry deck cargo and the loading is in excess of 8,5 kN/m² (0,865 tonne-f/m²) the scantlings of longitudinals are also to comply with the requirements for location (1) in Table 1.4.4 in Pt 4, Ch 1 using the equivalent design head, for specified cargo loadings, for weather decks given in Table 3.5.1 in Chapter 3.
3. For the scantlings of deck longitudinals aft in way of the cargo tanks of oil tankers (see 1.1.4) or ore carriers, see also Pt 4, Ch 9, Ch 10 or Ch 11, as applicable.
4. The thickness of flat bar longitudinals, situated outside the line of openings is to be not less than the following:
 - (a) $t = \frac{d_w}{18\sqrt{k_L}}$ mm
where longitudinal continuous through bulkhead
 - (b) $t = \frac{d_w}{15\sqrt{k_L}}$ mm
where longitudinal cut at bulkhead
5. The web depth of longitudinal, d_w , to be not less than 60 mm.

■ Section 4 Shell envelope framing

4.3 Shell framing

4.3.3 End connections of transverse main and 'tween deck frames are to be in accordance with Ch 10,3. For bulk carriers (see 1.1.4), the end connections of main frames in cargo holds are to be in accordance with Pt 4, Ch 7,6.2.5 to 6.2.12.

Part 3, Chapter 7 Machinery Spaces

Effective date 1 July 2006

■ Section 1 General

1.1 Application

1.1.3 The requirements in this Chapter are not applicable to Double Hull Oil Tankers or Bulk Carriers with a CSR notation. See Pt 1, Ch 2,2.3.

1.3 Structural continuity

1.3.3 In oil tankers and bulk carriers with machinery aft (see 1.1.3), continuity of the longitudinal bulkheads and topside tank structure is to be maintained as far as possible into the machinery space with suitable taper brackets at the end.

■ Section 2 Deck structure

2.1 Strength deck – Plating

2.1.2 In the case of oil tankers (see 1.1.3), or other ships having small deck openings amidships and machinery aft, width of machinery openings exceeds $\frac{B}{2}$ and the opening extends forward beyond a point $\frac{B}{3}$ aft of the poop front, the thickness of deck plating may be required to be increased locally.

Part 3, Chapter 8 Superstructures, Deckhouses and Bulwarks

Effective date 1 July 2006

■ Section 1 General

1.1 Application

1.1.5 The requirements in this Chapter are not applicable to Double Hull Oil Tankers or Bulk Carriers with a CSR notation with the exception of Section 5 which is to be complied with. See Pt 1, Ch 2,2.3.

Part 3, Chapters 8, 9 and 10

■ Section 5 Bulwarks, guard rails and other means for the protection of crew

5.1 General requirements

Table 8.5.1 Protection of crew (*Part only shown*)

Ship type	Location in ship	Assigned Summer Freeboard, in mm	Acceptable arrangements according to type of freeboard assigned			
			Type A	Type (B-100)	Type (B-60)	Type (B & B+)
Oil tankers, chemical tankers and gas carriers (see 1.1.5)	1.1 Access to bow	$\leq (A_f + H_s)$	a	a	a	a
	1.1.1 Between poop and bow or		e	e	e	e
	1.1.2 Between a deckhouse containing living accommodation or navigation equipment, or both, and bow, or		f(1)	f(1)	f(1)	f(1)
	1.1.3 In the case of a flush deck vessel, between crew accommodation and the forward ends of ship	$>(A_f + H_s)$	a e f(1) f(2)			
	1.2 Access to after end In the case of a flush deck vessel, between crew accommodation and the after end of ship	As required in item 2.2.4 for other types of ships				

Part 3, Chapter 9 Special features

Effective date 1 July 2006

■ Section 9 Lifting appliances and support arrangements

9.3 Support Structure for masts, derrick posts and crane pedestals

9.3.1 The requirements of 9.3.2 and 9.3.3 are not applicable to Double Hull Oil Tankers or Bulk Carriers with a **CSR** notation (see Pt 1, Ch 2,2.3).

Existing paragraphs 9.2.3 and 9.2.4 are to be renumbered 9.3.2 and 9.3.3

Existing paragraph 9.3 is to be renumbered 9.4.

■ Section 12 Strengthening for regular discharge by heavy grabs

12.1 Application

12.1.5 The requirements in this Section are not applicable to Double Hull Oil Tankers or Bulk Carriers with a **CSR** notation. See Pt 1, Ch 2,2.3.

Part 3, Chapter 10 Welding and structural details

Effective date 1 July 2006

■ Section 1 General

1.1 Application

1.1.3 The requirements in this Chapter are not applicable to Double Hull Oil Tankers or Bulk Carriers with a **CSR** notation (see Pt 1, Ch 2,2.3) with the exception of 2.9 to 2.13 which are to be complied with.

Section 2

Welding

2.6 Fillet welds

Table 10.2.1 Weld factors (*Part only shown*)

Item	Weld factor	Remarks
(5) Bulkheads and tank construction, <i>see also</i> Pt 4, Ch 7, 10: Plane, double plate and corrugated watertight bulkhead boundary at bottom, bilge, inner bottom, deck and connection to shelf plate, where fitted	0,44	weld size to be based on thickness of bulkhead plating weld material to be compatible with bulkhead plating material
Shelf plate connection to stool	0,44	weld size to be based on thickness of stool at junction with shelf plate. Weld material to be compatible with stool material
Plane, double plate and corrugated bulkhead boundaries in way of deep tanks, holds in bulk carriers (<i>see 1.1.3</i>) which are floodable for the sea-going ballast condition or for the carriage of oil cargoes (Holds in bulk carriers (<i>see 1.1.3</i>) which are partially flooded for harbour conditions will be specially considered):		
– Boundary at bottom, bilge, inner bottom and deck	0,44	
– Connection of stool and bulkhead to lower stool shelf plating	full penetration	
– Connection of stool and bulkhead plating to upper stool shelf plate	0,44	
– Connection of bulkhead plating to hopper and topside tanks	0,44	
– Connection of bulkhead plating to side shell	0,34	
Secondary members where acting as pillars	0,13	
Non-watertight pillar bulkhead boundaries	0,13	
Perforated flats and wash bulkhead boundaries	0,10	
(6) Structure in cargo oil tanks of tankers (<i>see 1.1.3</i>):		
Bottom longitudinals to shell	0,21	for forward of 0,3L
Longitudinal of flat-bar type to plating		<i>see 2.6.7</i>
Connections between primary structural members	0,44 0,34	at bottom at deck
Oiltight bulkhead boundaries:		
longitudinal bulkhead	0,44	<i>see Note 2</i>
transverse bulkhead	0,44 0,34	at bottom, <i>see Note 3</i> at deck, sides and longitudinal bulkhead
Vertical corrugations to an inner bottom	full penetration	
Non-tight bulkhead boundaries to plating	0,21	

Section 5

Structural details

5.2 Arrangements at intersections of continuous secondary and primary members

(*Part only shown*)

5.2.13 For ship types for which oil tanker (*see 1.1.3*) requirements are not applicable, the collar arrangement is to satisfy the requirements of 5.2.1 to 5.2.12 inclusive.

Part 3, Chapter 10

Table 10.5.1 Total load transmitted to connection of secondary members (see continuation)

Ship type	Head, h_1 , in metres	Total load, P , transmitted to connection
(1) Oil tankers, bulk chemical tankers and combination carriers (see 1.1.3)	<p>h_1 = load height, in metres, derived in accordance with the following provisions, but to be taken as not less than $\frac{L_1}{56}$ or $(0,01L_1 + 0,7)$ m whichever is the greater</p> <p>For shell framing members:</p> <p>(a) With mid-point of span at base line, $h_1 = 0,8D_2$</p> <p>(b) With mid-point of span at a distance $0,6D_2$ above base line, $h_1 = f D_2 B_f$</p> <p>(c) With mid-point of span intermediate between (a) and (b). The value of h_1 is to be obtained by linear interpolation between values from (a) and (b).</p> <p>(d) With mid-point of span higher than $0,6D_2$ above base line. The value of h_1 is to be obtained by linear interpolation between the values from (b) and the values at the following points:</p> <p>(i) For framing members located at and abaft $0,2L$ from the forward perpendicular (see Fig. 10.5.2(a)) Zero value at the level of the deck edge amidships</p> <p>(ii) For framing members forward of cargo tank region (see Fig. 10.5.2(b)) Value of $f D_2 (B_f - 1)$ at the level 3 m above the minimum bow height determined from the Load Lines Conventions</p> <p>(iii) Intermediate values between locations (i) and (ii) are to be determined by linear interpolation</p> <p>For secondary stiffening members of transverse and longitudinal bulkheads, and inner hull and inner bottom of double hull tankers (see 1.1.3): h_1 = distance from mid-point of span to top of tank but need not exceed $0,8D_2$</p>	<p>(a) In general $P = 10,06 (S_w - s_1/2) s_1 h_1$ kN ($P = 1,025 (S_w - s_1/2) s_1 h_1$ tonne-f)</p> <p>(b) For wash bulkheads $P = 11,77 (S_w - s_1/2) s_1 h_1$ kN ($P = 1,2 (S_w - s_1/2) s_1 h_1$ tonne-f)</p>
(2) Other ship types for which oil tanker (see 1.1.3) requirements are not applicable	<p>Side and bottom shell longitudinals</p> <p>As for (1) except as follows:</p> <p>(a) h_1 to be derived in accordance with (1) above but to be taken as not less than $\frac{L_1}{56}$ m for type 'B - 60' and the greater of $\frac{L_1}{70}$, or 1,20 m for Type 'B' ships</p> <p>(b) h_1 for item (1)(d)(ii) above to extend forward of $0,15L$ from the forward perpendicular</p>	<p>$P = 10,06 (S_w - s_1/2) s_1 h_1$ kN ($P = 1,025 (S_w - s_1/2) s_1 h_1$ tonne-f)</p>

Table 10.5.1 Total load transmitted to connection of secondary members (conclusion)

Ship type	Head, h_1 , in metres	Total load, P , transmitted to connection
(3) Other ship types for which oil tanker (see 1.1.3) requirements are not applicable (continued)	<p>Internal tank boundaries</p> <p>(a) Topside tank longitudinals</p> <p>h_1 = distance from the longitudinal under consideration to the highest point of the tank with the ship inclined 30° either way, or</p> <p>= the greater of the distance from the longitudinal under consideration to the top of the tank, or half the distance to the top of the overflow, or</p> <p>= 1,5 m</p> <p>whichever is the greatest</p> <p>(b) Inner bottom and hopper longitudinals</p> <p>(i) For cargo ships and bulk carriers (see 1.1.3) without the notation 'strengthened for heavy cargoes'</p> <p>$h_1 = 1,39T$</p> <p>(ii) For cargo ships and bulk carriers (see 1.1.3) with the notation 'strengthened for heavy cargoes' $h_1 = H$</p> <p>(iii) For bulk carriers (see 1.1.3) where the topside wing tank is interconnected with hopper side and double bottom tanks</p> <p>h_1 = the distance from the longitudinal under consideration to the top of the topside tank with the ship inclined 25° either way</p> <p>(iv) For bulk carriers (see 1.1.3) in way of ballast hold</p> <p>h_1 = the distance from the longitudinal under consideration to the top of the hatchway coaming</p> <p>(v) For cargo ships and bulk carriers (see 1.1.3) with double hull where tank at side interconnected with double bottom</p> <p>$h_1 = H$</p> <p>(c) Longitudinals of inner hull of double hull cargo ships and bulk carriers (see 1.1.3)</p> <p>h_1 = the distance from the longitudinal under consideration to the top of the tank, or half the distance to the top of the overflow, whichever is the greater</p>	<p>$P = 10,06 (S_w - s_1/2) s_1 h_1$ kN $(P = 1,025 (S_w - s_1/2) s_1 h_1$ tonne-f)</p> <p>$P = 9,81 (S_w - s_1/2) s_1 h_1 / C$ kN $P = (S_w - s_1/2) s_1 h_1 / C$ tonne-f but not to be taken less than the load derived from (b)(iii), (b)(iv), (b)(v) or (c) where applicable</p> <p>$P = 10,06 (S_w - s_1/2) s_1 h_1$ kN $(P = 1,025 (S_w - s_1/2) s_1 h_1$ tonne-f)</p> <p>$P = 10,06 (S_w - s_1/2) s_1 h_1$ kN $(P = 1,025 (S_w - s_1/2) s_1 h_1$ tonne-f)</p> <p>$P = 10,06 (S_w - s_1/2) s_1 h_1$ kN $(P = 1,025 (S_w - s_1/2) s_1 h_1$ tonne-f)</p> <p>$P = 10,06 (S_w - s_1/2) s_1 h_1$ kN $(P = 1,025 (S_w - s_1/2) s_1 h_1$ tonne-f)</p>
<p>B_f = bow fullness factor determined from Ch 5, Fig. 5.4.3 to be considered. To be taken as 1 for framing members located at and abaft 0,2L from the forward perpendicular</p> <p>f = load height factor at level 0,6D above base line, see Table 10.5.2</p> <p>h_1 = load height, in metres, see also Fig. 10.5.2</p> <p>C = stowage rate, in m³/tonne, as defined in Ch 3.5.2. For cargo ships without the notation 'strengthened for heavy cargoes', the value to be used is 1,39 m³/tonne. For cargo ships and bulk carriers (see 1.1.3) with the notation 'strengthened for heavy cargoes', the actual stowage rate is to be used, but the value is not to be taken greater than 0,865 m³/tonne</p> <p>H = height from inner bottom at position under consideration, to deck at side amidships, in metres, for inner bottom longitudinals</p> <p>= height from the longitudinal under consideration to the underside of the topside tank sloped bulkhead, in metres, for hopper longitudinals</p> <p>S_w = spacing of primary members, in metres</p> <p>s_1 = spacing of secondary members, in metres</p> <p>T = the summer draught, in metres, measured from top of keel</p> <p>$D_2 = D$ in metres, but need not be taken greater than 1,67</p> <p>$L_1 = L$ but need not be taken as greater than 190 m</p>		

■ Section 5
Structural details

5.2 Arrangements at intersections of continuous secondary and primary members

Table 10.5.2 Load height factor, f

	Ship depth, D metres					
	$\leq 17,5$	20	22,5	25	27,5	30
(1) (a) For oil tankers, bulk chemical tankers and combination carriers (see 1.1.3), tank boundaries wholly within parallel mid-body	0,6	0,6	0,582	0,556	0,535	0,517
(b) For other ship types, at and abaft $0,2L$ from the forward perpendicular						
(2) (a) For oil tankers, bulk chemical tankers and combination carriers (see 1.1.3), tank boundaries wholly or partially outside parallel mid-body	0,7	0,685	0,685	0,628	0,6	0,577
(b) For other ship types, forward of $0,15L$ from the forward perpendicular						
NOTE Intermediate values to be obtained by linear interpolation.						

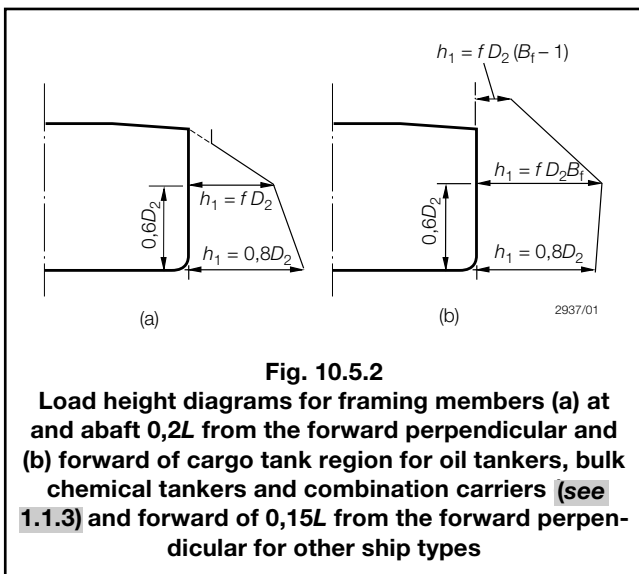


Table 10.5.3 Permissible stresses (Part only shown)

NOTES
1. The welding requirements of Section 2 and, where applicable 5.2.13 are also to be complied with (see 1.1.3) .
2. Where longitudinals are of higher tensile steel having a yield stress of 32 kg/mm^2 or more, these stresses are to be divided by the factor 1,2 for application to side longitudinals above $0,3D_2$ from the base-line. For definition of D_2 see Table 10.5.1.

Part 3, Chapter 11

Closing arrangements for Shell, Deck and Bulkheads

Effective date 1 July 2006

■ Section 1

General

1.1 Application

1.1.1 This Chapter applies to all ship types detailed in Part 4, with the exception of Sections 1 to 5 which are not applicable to Bulk Carriers with a **CSR** notation (see Pt 1, Ch 2.2.3). Additional provisions regarding access arrangements for oil tankers and chemical carriers are contained in Pt 4, Ch 9, Ch 10 and the *Rules for Liquid Chemicals in Bulk*, respectively.

Part 3, Chapter 13

Ship Control Systems

Effective date 1 July 2006

■ Section 1

General

1.1 Application

1.1.2 The requirements in this Chapter are not applicable to Double Hull Oil Tankers or Bulk Carriers with a **CSR** notation (see Pt 1, Ch 2.2.3) with the exception of the following:

- For Double Hull Oil Tankers; Sections 2 to 6 and Section 8 are to be complied with as applicable.
- For Bulk Carriers; Sections 3-6, 8 and 9 are to be complied with as applicable.

■ Section 7

Equipment

7.1 General

Table 13.7.1 Equipment requirements (*Part only shown*)

Ship type	Service	Required equipment
Cargo ships, bulk carriers, tankers, ferries, dredgers, etc. (see 1.1.2)	Unrestricted service	(1) See Tables 13.7.2 and 13.7.3, using N_C

Part 3, Chapter 16

ShipRight Procedures for the Design, Construction and Lifetime Care of Ships

Effective date 1 July 2006

■ Section 1 General

1.1 Application

1.1.1 This Chapter is applicable to all ship types and components with the exception of Sections 2 and 3 which are not applicable to Bulk Carriers or Double Hull Oil Tankers with a CSR notation (see Pt 1, Ch 2.2.3). and the The requirements are to be applied in conjunction with the relevant Chapters of Parts 3 and 4 applicable to the particular ship type, and the ShipRight procedures.

■ Section 2 Structural design assessment

2.1 Structural Design Assessment notation – SDA

(Part only shown)

2.1.2 This procedure is mandatory, and additional to normal Rule structural design approval, for:

- (a) bulk carriers and oil tankers without a CSR notation (see 1.1.1) greater than 190 m in length;

■ Section 3 Fatigue design assessment

3.1 Fatigue Design Assessment notation – FDA

3.1.1 The ShipRight FDA procedure is to be applied in conjunction with the construction control tolerances and limits, in addition to the normal Rule structural detail design appraisal. These procedures are mandatory for bulk carriers and oil tankers (see 1.1.1) greater than 190 m in length and for other ships where the type, size, and structural configuration demand, see also Pt 1, Ch 2.2.3 and Ch 2.2.7.

■ Section 4 Construction monitoring

4.1 Construction Monitoring notation – CM

4.1.2 The procedure is mandatory for all Bulk Carriers or Double Hull Oil Tankers greater than 190 m in length with a CSR notation (see Pt 1, Ch 2.2.3).

Part 4, Chapter 1

General Cargo Ships

Effective date 1 July 2006

■ Section 6 Shell envelope framing

6.2 Longitudinal stiffening

6.2.1 For non-CSR tankers and bulk carriers (see Pt 1, Ch 2.2.3) the scantlings of bottom and side longitudinals in the midship region are to comply with the requirements given in Table 1.6.1(b). In general other ships are to comply with Table 1.6.1(a).

Part 4, Chapter 3 Tugs

CORRIGENDA

■ Section 1 General

1.2 Class notations

1.2.3 Tugs for unrestricted service complying with the requirements of this Chapter will be eligible to be classed **100A1 escort tug EPN (F,B,V,C)**. The performance numeral (F,B,V,C) contains the performance ratings obtained from full scale trials in accordance with 9.3.

1.2.4 (Part only shown)

- **A1 tug protected waters service**; or
- **A1 escort tug protected waters service**; or
- **A1 escort tug EPN (F,B,V,C) protected waters service**, (see Pt 1, Ch 2,2.3.6); or
- **100A1 tug with service restriction notation**; or
- **100A1 escort tug with service restriction notation**; or
- **100A1 escort tug EPN (F,B,V,C) with service restriction notation**;

■ Section 9 Escort operation, performance numeral and trials

9.3 Performance trials

(Part only shown)

9.3.1 Escort tugs which carry out full scale performance trials in accordance with the requirements of this Section will be eligible to have the escort performance numeral **EPN (F,B,V,C)** appended to the **escort tug** notations, see 1.2.3, 1.2.4 and Ch 4,1.2.2,

Part 4, Chapter 4 Offshore Supply Ships

CORRIGENDUM

■ Section 1 General

1.2 Class notations

1.2.2 Ships complying with the requirements of Ch 3,9 and the requirements of this Chapter will be eligible to be classed:

- **100A1 offshore escort tug/supply ship**; or
- **100A1 offshore escort tug EPN (F,B,V,C)/supply ship**;

whichever is applicable.

Part 4, Chapter 7 Bulk Carriers

Effective date 1 July 2006

■ Section 1 General

1.4 Class notation for CSR bulk carriers

1.4.4 The 'Construction Monitoring' (CM) procedures detailed in the *ShipRight Procedures Manual*, published by LR, are mandatory for bulk carriers greater than 190 m in length.

Existing paragraph 1.4.4 is to be re-numbered 1.4.5

Part 5, Chapter 19
General Cargo Ships

CORRIGENDUM

■ *Section 5*
**Electric power circuits, electric
control circuits, monitoring and
alarms**

5.3 Monitoring and alarms

5.3.1 Alarms and monitoring requirements are indicated in 5.3.2 and Table 19.5.1.

Table 19.5.1 Alarm requirements

Item	Alarm	Note
Rudder position	—	Indication, see 4.1.3
Steering gear power units, power	Failure	—
Steering gear motors	Overload, Single phase	For alarm and running indication locations, see 5.1.2 and 5.1.3
Control system power	Failure	—
Steering gear hydraulic oil level	Low	Each reservoir to be monitored. For alarm locations, see 5.1.4
Auto pilot	Failure	Running indication
Hydraulic oil temperature	High	Where oil cooler is fitted
Hydraulic lock	Fault	Where more than one system (either power or control) can be operated simultaneously each system is to be monitored, see Note
Hydraulic oil filter differential pressure	High	When oil filters are fitted
<p>NOTE</p> <p>This alarm is to identify the system at fault and to be activated when (for example):</p> <ul style="list-style-type: none"> position of the variable displacement pump control system does not correspond with given order; or incorrect position of 3-way full flow valve or similar in constant delivery pump system is detected. 		

Part 5, Chapter 23 Podded Propulsion Units

CORRIGENDUM

■ Section 6 Machinery design and construction requirements

6.6 Steering system

(Part only shown)

6.6.5 The minimum factors of safety, as derived using ISO 6336 Calculation of load capacity of spur and helical gears, or a recognized National Standard, are to be 1.5 on bending stress and 1,0 on Hertzian contact stress.

Part 6, Chapter 1 Control Engineering Systems

CORRIGENDA

■ Section 1 General requirements

1.2 Plans

(Part only shown)

1.2.3 Plans for the control, alarm and safety systems of the following are to be submitted:

- Cargo tank, ballast tank and void space instrumentation where such arrangements are specified by other section of the Rules (e.g. water ingress detection, gas detection).

■ Section 7 Trials

7.1 General

(Part only shown)

7.1.1 Before a new installation (or any alteration or addition to an existing installation) is put into service, trials are to be+ carried out.

■ Section 2 Essential features for control, alarm and safety systems

2.2 Control stations for machinery

2.2.5 Control of machinery, and associated equipment is to be possible only from one station at a time.

2.3 Alarm systems, general requirements

2.3.1 Where an alarm system, which will provide warning of faults in the machinery and the safety and control systems, is to be installed, the requirements of 2.3.2 to 2.3.18 are to be satisfied.

2.11 Programmable electronic systems – Additional requirements for essential services and safety critical systems

(Part only shown)

2.11.1 The requirements of 2.11.2 to 2.11.9 are to be complied with where control, alarm or safety systems for essential services, as defined by Pt 6, Ch 2, 1.5, or safety critical systems, incorporate programmable electronic equipment.

Part 6, Chapter 2
Electrical Engineering

CORRIGENDA

■ *Section 7*
Switchgear and control gear assemblies

7.15 Wiring

7.15.1 Insulated wiring connecting components **are** to be stranded, flame retardant and manufactured in accordance with a relevant and acceptable National Standard.

■ *Section 11*
Batteries

11.1 General

11.1.1 The requirements of this Section apply to permanently installed secondary batteries of the vented and valve-regulated sealed type.

■ *Section 13*
Electrical equipment for use in explosive gas atmospheres or in the presence of combustible dusts

13.9 Requirements for tankers intended for the carriage in bulk of oil cargoes having a flash point not exceeding 60°C (closed-cup test)

(Part only shown)

13.9.9 Enclosed or semi-enclosed spaces immediately above cargo tanks or having bulkheads immediately above and in line with cargo tank bulkheads (unless protected by diagonal plate in accordance with Pt 4, Ch 9, 1.2.7.9), compartments for cargo hoses, spaces other than cofferdams adjoining and below the top of a cargo tank, e.g. trunks, passageways and holds:

Part 1, Chapter 2

2.1.8 (a) Reference to sub-Section 2.3.15 *now reads* 2.3.16.

Part 3, Chapter 2

Table 2.1.1 Reference to sub-Section Ch 4, 5.8.1 *now reads* Ch 4, 5.7.1.

Part 3, Chapter 3

2.4.1 Reference to sub-Section Ch 4, 5.7 *now reads* Ch 4, 5.6.

Part 3, Chapter 4

5.1.1 Reference to sub-Section 5.5 *now reads* 5.4.

5.1.1 Reference to sub-Section 5.6 *now reads* 5.5.

5.1.1 Reference to sub-Section 5.7 *now reads* 5.6 (two instances).

5.2.3 (b) Reference to sub-Section 5.5 *now reads* 5.4.

5.5.4 Reference to sub-Section 5.5.1 *now reads* 5.4.1.

5.6.1(b) Reference to sub-Section 5.8.2 *now reads* 5.7.2.

5.6.1 (b) Reference to sub-Section 5.7 *now reads* 5.6.

5.9.1 Reference to sub-Section 5.7.1 *now reads* 5.6.1.

5.10.1 Reference to sub-Section 5.6.1 *now reads* 5.5.1.

7.4.1 Reference to sub-Section 5.7.1 *now reads* 5.6.1.

Part 3, Chapter 9

8.5.2 (a) Reference to sub-Section Ch 4, 5.5 *now reads* Ch 4, 5.4.

8.5.2 (b) Reference to sub-Section Ch 4, 5.5 *now reads* Ch 4, 5.4.

Part 3, Chapter 9

8.5.2 (b) Reference to sub-Section Ch 4, 5.7 *now reads* Ch 4, 5.6.

Part 3, Chapter 10

4.2.1 Reference to sub-Section Ch 4, 5.7 *now reads* Ch 4, 5.6.

Part 4, Chapter 1

Table 1.4.1 Reference to sub-Section Pt 3, Ch 4, 5.7 *now reads* Pt 3, Ch 4, 5.6.

Table 1.4.3 Reference to sub-Section Pt 3, Ch 4, 5.7 *now reads* Pt 3, Ch 4, 5.6.

Table 1.5.2 Reference to sub-Section Pt 3, Ch 4, 5.7 *now reads* Pt 3, Ch 4, 5.6.

Table 1.5.3 Reference to sub-Section Pt 3, Ch 4, 5.7 *now reads* Pt 3, Ch 4, 5.6.

Table 1.6.1(a) Reference to sub-Section Pt 3, Ch 4, 5.7 *now reads* Pt 3, Ch 4, 5.6.

Table 1.6.1(b) Reference to sub-Section Pt 3, Ch 4, 5.7 *now reads* Pt 3, Ch 4, 5.6.

Part 4, Chapter 7

7.2.1(b) Reference to sub-Section Pt 3, Ch 4, 5.7 *now reads* Pt 3, Ch 4, 5.6.

Part 4

Table 7.8.1 Reference to sub-Section Pt 3, Ch 4, 5.7 *now reads* Pt 3, Ch 4, 5.6.

Part 4, Chapter 9

4.2.1 Reference to sub-Section Pt 3, Ch 4, 5.7 *now reads* Pt 3, Ch 4, 5.6.

4.2.1 Reference to sub-Section Pt 3, Ch 4, 5.7.1 *now reads* Pt 3, Ch 4, 5.6.1.

5.2.1 Reference to sub-Section Pt 3, Ch 4, 5.7 *now reads* Pt 3, Ch 4, 5.6 (two instances).

6.2.1 Reference to sub-Section Pt 3, Ch 4, 5.7 *now reads* Pt 3, Ch 4, 5.6.

Part 4, Chapter 12

17.2.1 Reference to sub-Section Pt 3, Ch 4, 5.6 *now reads* Pt 3, Ch 4, 5.5.

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